Driver Factors and Collision Warning Systems
Introduction

• Driver factors
  – Freightliner, specialty bus

• Collision warning systems
  – NTSB actions
  – NTSB recommendations status
Truck Driver’s Qualifications

• Valid Class A CDL, corrective lenses restriction
• Glasses in use
• Valid medical certificate
• 13 years experience
Bus Driver’s Qualifications

• Valid Class B CDL, no restrictions
• Expired medical certificate
• Medically recertified following accident
• Diabetes well controlled by diet, medication
• 6.5 years experience
Driver Factors

• Freightliner driver
  – On duty 9.5 hours
  – Normal sleep pattern, well rested

• Specialty bus driver
  – On duty 8.5 hours
  – Normal sleep pattern, well rested

• Toxicological examinations
  – Negative for alcohol, drugs
Precollision Conditions

• Bright sun, above and behind
• Bus brake lights illuminated
• Degraded brake light contrast unlikely
• No collision warning system
Profile of Rear-End Crashes

• One-third of all highway crashes
• 90% involve driver inattention
• 12% of multivehicle crashes are fatal
• 40% of fatal crashes involve commercial vehicles
Capabilities of CWS and ACC

• Collision warning system (CWS)
  – Detects slowed, stopped objects ahead
  – Alerts the driver to take action
• Adaptive cruise control (ACC)
  – Detects slowing vehicles ahead
  – Cruise control in use
  – Automatic throttle closure, engine braking
NTSB Actions

• 1995 accident investigation
  – Recommended truck CWS testing
  – Closed – Unacceptable Action in 1999

• 1999 public hearing
  – Advanced safety technologies

• 2001 special investigation report
  – 9 rear-end crashes, 20 fatalities
NTSB Recommendations

H-01-06
• Complete CWS, ACC rulemaking

H-01-07
• Require CWS in new commercial vehicles
Action by NHTSA

- July 2005 response to NTSB
- Completed CWS, ACC field testing
- Evaluating test data
- Classified as *Open – Acceptable Response*
- Report not published in 2005
- Anticipated in May 2006